Title (en)

CATALYST, AND METHOD FOR DIRECT CONVERSION OF SYNGAS TO PREPARE LIQUID FUEL AND TO PRODUCE LIGHT OLEFINS

Title (de)

KATALYSATOR UND VERFAHREN ZUR DIREKTEN UMWANDLUNG VON SYNTHESEGAS ZUR ZUBEREITUNG VON FLÜSSIGEM BRENNSTOFF UND ZUR HERSTELLUNG VON LEICHTEN OLEFINEN

Title (fr)

CATALYSEUR ET PROCÉDÉ DE CONVERSION DIRECTE DE GAZ DE SYNTHÈSE POUR PRÉPARER UN COMBUSTIBLE LIQUIDE ET PRODUIRE DES OLÉFINES LÉGÈRES

Publication

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Application

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Abstract (en)

[origin: EP3632556A1] The present invention belongs to preparation of liquid fuels and light olefins from syngas, and particularly relates to a catalyst and a method for preparing liquid fuels and light olefins via direct conversion of syngas. The syngas is used as the raw material, and the reaction is conducted on a fixed bed or a moving bed. The catalyst comprises A and B components. The component A is composed of active metal oxides, and the active ingredients of the component B are zeolites with a MEL structure. The distance between the geometric centers of catalyst A and catalyst B particles is 2 nm - 10 mm; a weight ratio of the catalyst A to the catalyst B is 0.1-20. The pressure of the syngas is 0.1-10 MPa; reaction temperature is 300-600°C; and space velocity is 300-10000 h⁻¹. The reaction mainly produces gasoline with high octane number, and co-generates light olefins. Meanwhile, the selectivity for a methane byproduct is low (less than 10%). The present invention has excellent application prospect.

IPC 8 full level

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Citation (search report)

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